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10/050,061	01/15/2002	Toren S. Davis	H0002526 (A66) US	1119

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EXAMINER
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TORRES, MELANIE

ART UNIT	PAPER NUMBER
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3683

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**APR 28 2005**

**GROUP 3600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/050,061  
Filing Date: January 15, 2002  
Appellant(s): DAVIS, TOREN S.

Cindy J. Kwacala for Robert E. Greenstien  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed February 21, 2005.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claims 5, 7-10 and 12-14 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

6,315,094	Griffin et al.	11-2001
5,305,981	Cunningham et al.	4-1994
6,022,005	Gran et al.	2-200

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5, 7, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Griffen et al.

Re claims 5, and 10, Griffen et al. teaches a tuned mass damper comprising a mass having predetermined inertia properties and a plurality of isolators (hexapod/secondary suspension) arranged in a hexapod configuration, each isolator having at least a first end and a second end, each isolator first end coupled to the mass (Secondary mass) and each isolator second end adapted to couple to a structure (Primary Mass or Payload) that may experience vibrations at particular frequencies in six independent degrees of freedom, wherein each of the isolators in combination with the mass, is configured to be tuned independent of the other isolators to reduce a first particular frequency of the vibrations experienced by the structure. (Fig. 9, Column 1, line 67 – Column 2, line 9, Column 7, lines 18-21)

Re claims 7 and 12, Griffen et al. teaches wherein each of the isolators, in combination with the mass, is individually tuned such that a combination of two or more isolators reduces a particular frequency. It is the examiner's position that this would be an inherent feature of the structure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Griffen et al. in view of Cunningham et al.

Re claims 8 and 13, Griffen et al. teach wherein each isolator second end is adapted to couple the structure at a predetermined location thereon. However, Griffen et al. do not teach wherein each isolator comprises a spring having an adjustable spring constant, and wherein each isolator is individually tuned by adjusting its spring constant and the predetermined location on the structure to which its second end will couple. Cunningham et al. teaches wherein each isolator comprises a spring having an adjustable spring constant, and wherein each isolator is individually tuned by adjusting its spring constant and the predetermined location on the structure to which its second end will couple as is acknowledged by applicant on page 2, lines 17-21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tuned and adjusted each isolator to provide the desired vibration isolation in six degrees of freedom.

5. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffen et al. in view of Gran et al.

Re claim 9, Griffin et al. does not teach wherein the isolators comprise tubular damping struts with first and second spherical pivots at opposite ends of the tubular damping strut. Gran et al. teaches isolators comprise tubular damping struts (6) with

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first and second spherical pivots at opposite ends of the tubular damping strut in a hexapod configuration. (Fig. 2, 6) The examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the isolators and pivots of Gran et al. in the assembly of Griffin et al. as the use of damping struts and pivots is well known in hexapod assemblies.

**(11) Response to Argument**

- Applicant argues that the prior art of record does not teach wherein the isolators are “configured to be tuned independent of the other isolators.”
  - The examiner like to point to Applicant’s “Summary” on page 2 of the specification referring to Prior Art which specifically discloses wherein the prior art teaches wherein struts can be “adjusted and decoupled from each other by changing “strut” angles, stiffness, damping, and the TMD mass properties. As disclosed by Applicant, tuning struts is extremely well known in the art as ANY damper is inherently tuned to the specific requirements of the application for which it is used. The inherent design of a strut construction would result in “tuning” the strut to operate according to desired characteristics. Griffin et al. **clearly discloses** tuning in column 7, lines 17-29 and Column 1, line 67 – Column 2, line 9.
- Applicant further argues wherein Griffin does not teach reducing a first particular frequency of the vibrations experienced by the structure “at a first particular

location on the structure” or wherein the isolators are not able to tune vibrations  
“at a first particular location on the structure.”

- o In a comparison between, specifically, Applicant’s Figure 2 and Figure 9 of Griffin et al. the Examiner fails to see where the difference lies with respect to this limitation. Applicant’s specification discloses on Page 3, line 20 – Page 4, line 7 wherein “These well-known struts 14 are traditionally used as isolators for shock absorption mounts for payloads on spacecraft, one type commonly known as the D-Strut brand isolator by Honeywell International Inc. The struts 14 have been used in a hexapod configuration for that purpose. The application result are different in this arrangement, but with the predictable or deterministic mechanics of the hexapod, each strut 14, can be tuned with the one mass 10 to reduce particular frequencies alone or in combination with one or more other struts 14. That is because each strut 14 can move independently; that is, without extending the others, only requiring rotation at each strut’s pivot point.” Griffin et al. discloses the **exact** hexapod configuration claimed by Applicant in Figure 9. Further, Applicant does not claim where the “location on the structure” is located. Therefore, applicant’s arguments with respect to this limitation are deemed more specific than the claim language.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

MT *MT*  
April 25, 2005

Conferees  
DB *DB*  
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4/25/05

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